PROJECT TITLE	:	CIGARETTE DEVELOPMENT 3
PERIOD COVERED	:	NOVEMBER 25, 1981 - JANUARY 11, 1982
WRITTEN BY	:	Nagel-P.

421 HILTON ULTRA

Objective

To develop a MERIT line extension in the ultra low tar sector.
TAR : 4 mg/cig.
SN : 0.4 mg/cig.
CO : around 4 mg/cig.
FORMAT : 7.95 / 25 / 84 mm

Summary

The objective described corresponds to the existing MERIT ULTRA LIGHTS cigarette developed and produced by PM USA, Richmond.
The specifications of the most promising prototypes, as well as those of the final product, have been useful for developing a cigarette similar to the US pattern while using the tobacco and non-tobacco materials available in Europe.

Description of samples and results

Until now the trials were made with two tobacco blends which differ from each other in the type of expanded tobacco used. The amount of expanded tobacco used was the same in both cases, i.e. 20 %

Blend No :	ET type :
IT0242101N02	ET-FC 21
IT0242102N02	ET-FC 24

The substitution of ET-FC 21 by ET-FC 24 led not only to an improvement as far as the organoleptic characteristics were concerned but also to an increase in TA content (from 1.5 to 1.75 %).

The flavour system applied was identical to that used for MERIT ULTRA LIGHTS in US.

Based on the results of the filter type and dilution prediction program, which takes into consideration the analytical figures of the reference cigarette and those aimed at in the project, several constructions were suggested.

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Source: https://www.industrydocuments.ucsf.edu/docs/yfxk0000

Regarding the efficiency / RTD ratio as well as the influence on taste, 3.3 Y / 55'000 white tow appeared to be the most suitable filtering material for our task. The original 3.0 Y / 48'000 white tow had been received by the end of 1981 and is now being tested.

Trials were carried out with different cigarette papers in order to find out the one which was the most suitable for such a tobacco blend.

Cigarette paper designation	Porosity $ml/cm^2/min$	Burning rate sec/15 cm	Additive type	Additive content %	Fiber type
Ecusta 14511	44	unavailable	Citrate	2	Flax
Ecusta 14753	50	58	Citrate	1	Flax
Mauduit 110-6	41	45	Citrate	1.2	Flax/ hemp
Mauduit 110-6 M 1.5 Cl	42	S.C.	Citrate	1.5	Flax/ hemp
Mauduit 350 C	46	50.8	Citrate	0.87	Flax/ hemp
Pela 130 MNC	58.1	54.8	Citrate		Cellulose

Of all the prototypes produced, No 25, using the Pela 130 Mnc cigarette paper was selected as being the closest one to the US product as far as the taste and character were concerned.
The description of the two above-mentioned cigarettes is stated in the table on the next page.

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Source: https://www.industrydocuments.ucsf.edu/docs/yfxk0000

418 ARIZONA

Objective

To develop an American blend-type cigarette in the LTN sector for the Swiss market.
TAR : 3.0 mg/cig.
SN : 0.3 mg/cig.
CO : less than 6.0 mg/cig.
NO : less than 0.1 mg/cig.
FORMAT : 7.95 / 25 / 84 mm

Summary

The LTN cigarette sector has considerably increased its share of the market during the last few years. However, the market is still dominated in Switzerland by air-cured and Swiss blond-type (so-called European, ex. MURATTI) cigarettes. Therefore, the Swiss Marketing Department decided to launch a real American-type LTN product.
For this purpose, two prototypes Nos 8 and 11 P of project PITCH III as well as the PHILIP MORRIS SUPER LIGHTS cigarettes, from which the two former prototypes are derived, are very suitable.

Description of samples and results

Following the PMS specifications, the target TAR / SN values were achieved in both cases (versions 8 and 11) by using filtering materials of higher retention capacity.
The dilution level of prototype 8 remained in the same range as that of the PMS while the use of a very high efficiency acetate / paper double filter on prototype 11 led to a decrease in dilution which brought the value to within the target figures.
The two prototypes were developed with the same cigarette paper as that used in the past for the PMS cigarette, i.e. Ecusta-708. It had failed quality control as it had some great irregularities as far as the porosity and burning rate were concerned and was, subsequently, rejected and replaced by 110-6 from Mauduit.
No other development work will be undertaken; prototypes 8 and 11 were produced by employing the 110-6 cigarette paper.
The product test will be conducted with both prototypes and the PMS cigarette in mid-January. The physical and chemical characteristics of the two original prototypes of PITCH III, those of the corresponding ARIZONA cigarette and PMS are stated in the table on the next page.

Source: https://www.industrydocuments.ucsf.edu/docs/yfxk0000

PROJECT NAME		H I L T O N U L T R A	
PROJECT NO		421	421
PROJECT LEADER		PHN	PHN
PROTOTYPE NO		25 P	MUL (US) (1)
BLEND NO		IT0242102N02	MUL (US)
VERSION		A	----
TA	%	1.74	1.71
NITRATE-NITROGEN	%	0.21	----
REDUCING SUGARS	%	6.2	3.6
FORMAT : DIAMETER	mm	7.95	7.95
FILTER LENGTH	mm	25	27
CIGARETTE LENGTH	mm	84	84
TOTAL WEIGHT	mg/cig.	971	----
TOBACCO WEIGHT AT 12 % O.V.	mg/cig.	666	618
CIGARETTE RTD	mm WG	90	104
DILUTION	%	62	58
CIGARETTE PAPER		Pela 130 Mnc	Ecusta 14511
TIPPING PAPER		4 x M. 0.3 . 3.5	2 row laser
FILTER : TYPE		Single	Single
TOW		3.3 Y / 55'000	3.0 Y / 48'000
PAPER		FU-POV 100	260 M2
RTD	mm WG	105	122
TAR	mg/cig.	4.0	4.0
SN	mg/cig.	0.35	0.38
CO	mg/cig.	4.1	4.5
NO	mg/cig.	0.10	----
PUFF COUNT		8.6	7.7

THE CIGARETTES ARE SMOKED ON A PM 20 PORTS.

(1) : US values

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Source: https://www.industrydocuments.ucsf.edu/docs/yfxk0000

PROJECT NAME		A R I Z O N A	A R I Z O N A
PROJECT NO		418	418
PROJECT LEADER		PHN	PHN
PROTOTYPE NO		PITCH III 8 C 1	4 T (F 36)
BLEND NO		FR0240501N02 ----------	
VERSION		A	A
TA	%	1.95	2.22
NITRATE-NITROGEN	%	0.25	0.22
REDUCING SUGARS	%	8.7	8.0
FORMAT : DIAMETER	mm	7.95	7.95
FILTER LENGTH	mm	25	25
CIGARETTE LENGTH	mm	84	84
TOTAL WEIGHT	mg/cig.	933	957
TOBACCO WEIGHT AT 12 % O.V.	mg/cig.	633	647
CIGARETTE RTD	mm WG	101	108
DILUTION	%	59	62
COMPRESSIBILITY AT 12 % O.V.	mg/cig.	----	3.5
CIGARETTE PAPER		Ecusta 708	Mauduit 110-6
TIPPING PAPER		4 x M. 0.3 . 3.5 ----------	
FILTER : TYPE		Single ----------	
TOW		2.5 Y / 55'000 ----------	
ADDITIVE			
PAPER		FU-POV 100 ----------	
RTD	mm WG	129	129
TAR	mg/cig.	3.0	3.5
SN	mg/cig.	0.29	0.34
CO	mg/cig.	4.4	5.6
NO	mg/cig.	0.08	0.09
PUFF COUNT		8.0	8.5

THE CIGARETTES ARE SMOKED ON A PM 20 PORTS.

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Source: https://www.industrydocuments.ucsf.edu/docs/yfxk0000

PROJECT NAME		A R I Z O N A	A R I Z O N A
PROJECT NO		418	418
PROJECT LEADER		PHN	PHN
PROTOTYPE NO		PITCH III 11	6 T (N-63)
BLEND NO		FR0240501NO2 ----------	
VERSION		A	A
TA	%	1.99	1.97
NITRATE-NITROGEN	%	0.24	0.23
REDUCING SUGARS	%	9.3	7.7
FORMAT : DIAMETER	mm	7.95	7.95
FILTER LENGTH	mm	25	25
CIGARETTE LENGTH	mm	84	84
TOTAL WEIGHT	mg/cig.	949	965
TOBACCO WEIGHT AT 12 % O.V.	mg/cig.	640	650
CIGARETTE RTD	mm WG	104	108
DILUTION	%	50	58
COMPRESSIBILITY AT 12 % O.V.	mg/cig.	----	3.7
CIGARETTE PAPER		Ecusta 708	Mauduit 110-6
TIPPING PAPER		6 x M. 0.15 . 4.5 ----------	
FILTER : TYPE		Dual ----------	
TOW		2.5 Y / 48 - DICO TOP G 200 ------	
ADDITIVE			
PAPER		FU-POV 150 ----------	
RTD	mm WG	116	115
TAR	mg/cig.	3.2	3.3
SN	mg/cig.	0.31	0.28
CO	mg/cig.	5.3	6.6
NO	mg/cig.	0.10	0.12
PUFF COUNT		7.7	8.4

THE CIGARETTES ARE SMOKED ON A PM 20 PORTS.

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Source: https://www.industrydocuments.ucsf.edu/docs/yfxk0000

PROJECT NAME		A R I Z O N A	A R I Z O N A
PROJECT NO		418	418
PROJECT LEADER		PHN	PHN
PROTOTYPE NO		PMS (CIR 8-9)	PMS (U 40)
BLEND NO		FR0240501N02 ----------	
VERSION		A	A
TA	%	1.81	1.90
NITRATE-NITROGEN	%	0.22	0.21
REDUCING SUGARS	%	8.7	7.7
FORMAT : DIAMETER	mm	7.95	7.95
FILTER LENGTH	mm	25	25
CIGARETTE LENGTH	mm	84	84
TOTAL WEIGHT	mg/cig.	921	925
TOBACCO WEIGHT AT 12 % O.V.	mg/cig.	638	645
CIGARETTE RTD	mm WG	100	95
DILUTION	%	58	60
COMPRESSIBILITY AT 12 % O.V.	mg/cig.	3.33	3.50
CIGARETTE PAPER		Mauduit 110-6 ----------	
TIPPING PAPER		6 x M. 0.15 . 4.5 ----------	
FILTER : TYPE		Single ----------	
TOW		2.5 Y / 48'000 ----------	
ADDITIVE			
PAPER		FU-POV 150 ----------	
RTD	mm WG	106	103
TAR	mg/cig.	4.2	4.2
SN	mg/cig.	0.39	0.35
CO	mg/cig.	5.3	7.0
NO	mg/cig.	0.10	0.11
PUFF COUNT		8.0	8.5

THE CIGARETTES ARE SMOKED ON A PM 20 PORTS.

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Source: https://www.industrydocuments.ucsf.edu/docs/yfxk0000

422 BUBBLE ULTRA

Objective

To develop a MARLBORO line extension in the ultra low tar sector.
a) TAR : 4 mg/cig.
SN : 0.4 mg/cig.
b) TAR : 5 mg/cig.
SN : 0.5 mg/cig.
FORMAT : 7.95 / 25 / 84 mm

Summary

The tobacco blend No PM0242201N02, version A, was incorporated into different cigarette constructions. Of all the prototypes produced, Nos 3 P and 5 P were selected for following up our development.

Description of samples and results

In order to bring the product more into the MARLBORO family, the given blend No PM0242201N02 underwent different treatments. For a description, see the table below. The previous processing version (A) is also given for comparison.

Blend No	----------PM0242201N02----------			
FTR batch No	865	897	898	899
Processing version	A	B	C	D
Type	MLF	MLF	MLF	MLF
Burley Casing	BUR-CAS STD ----------*----------*----			
Burley Top Flavour	BUR-TOP STD ----------*----------*----			
Pre-Cut	MF-PC	MF-PC	MF-PC	MF-PC
After-Cut	EAC-81	EAC-82	EAC-81	EAC-83

* : Only the US Burley tobaccos were treated.

The trials were run using the two constructions of prototypes Nos 3 P and 5 P and the blend of processing versions B / C / D.

Another additional version (11 P) was made by utilizing 3.3 Y / 55'000 white tow and the blend of processing version D with the aim to increase the cigarette RTD without changing considerably the filter efficiency.

All the prototypes including the repetitions of Nos 3 and 5 were submitted to the expert Panel A for taste evaluation.
Prototypes Nos 3 C1 and 27 P were chosen as being the most suitable for the objective of the project. Meanwhile, the tobacco treatment should undergo some improvements.
Prototype 11 P, which was rejected for the project, will be retained for the German market area (project INGE).

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Source: https://www.industrydocuments.ucsf.edu/docs/yfxk0000

PROJECT NAME		B U B B L E	U L T R A
PROJECT NO		422	422
PROJECT LEADER		PHN	PHN
PROTOTYPE NO		3 C 1	27 P
BLEND NO		PM0242201N02	PM0242201N02
VERSION		A	D
TA	%	1.74	1.76
NITRATE-NITROGEN	%	0.21	0.21
REDUCING SUGARS	%	9.0	9.3
FORMAT : DIAMETER	mm	7.95	7.95
FILTER LENGTH	mm	25	25
CIGARETTE LENGTH	mm	84	84
TOTAL WEIGHT	mg/cig.	866	888
TOBACCO WEIGHT AT 12 % O.V.	mg/cig.	612	633
CIGARETTE RTD	mm WG	84	78
DILUTION	%	53	60
COMPRESSIBILITY AT 12 % O.V.	mg/cig.	3.50	3.20
CIGARETTE PAPER		Ecusta 753	WP 60
TIPPING PAPER		6 x M. 0.15 . 4.5	4 x M. 0.3 . 3.5
FILTER : TYPE		Single	Single
TOW		2.5 Y / 40'000	2.5 Y / 40'000
PAPER		FU-POV 150	FU-POV 100
RTD	mm WG	86	86
TAR	mg/cig.	5.7	4.5
SN	mg/cig.	0.45	0.37
CO	mg/cig.	6.2	5.4
NO	mg/cig.	0.10	0.10
PUFF COUNT		8.1	8.6

THE CIGARETTES ARE SMOKED ON A PM 20 PORTS.

0001143928

Source: https://www.industrydocuments.ucsf.edu/docs/yfxk0000

429 LONG

Objective

To develop a full-flavour American blend cigarette in regular and king size formats.
TAR : around 18 mg/cig.
FORMAT : 7.95 / 18 / 79.4 mm
7.95 / 20 / 84.0 mm

Description of samples and results

The tobacco blend used, No YU014201N02, on which only the experimental casing and flavour solutions were sprayed, underwent MARLBORO-type tobacco processing. Using this blend, two versions were produced.
The non-tobacco materials utilized were those of undiluted regular and king size MARLBORO. After having been approved by the expert Panel A, the two candidates were submitted to the Marketing Department of Area IV.
The description of the cigarettes is presented in the table on the next page.

F. Nagel

01.15.1982/PHN/cap

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Source: https://www.industrydocuments.ucsf.edu/docs/yfxk0000

PROJECT NAME		LONG	LONG
PROJECT NO		429	429
PROJECT LEADER		PHN	PHN
PROTOTYPE NO		1 T	23 T
BLEND NO		YU0141401N02	YU0141401N02
VERSION		A	A
TA	%	1.77	1.75
NITRATE-NITROGEN	%	0.25	0.23
REDUCING SUGARS	%	8.1	8.8
FORMAT : DIAMETER	mm	7.95	7.95
FILTER LENGTH	mm	20	18
CIGARETTE LENGTH	mm	84	79.4
TOTAL WEIGHT	mg/cig.	1079	1018
TOBACCO WEIGHT AT 12 % O.V.	mg/cig.	843	798
CIGARETTE RTD	mm WG	126	112
COMPRESSIBILITY AT 12 % O.V.	mg/cig.	3.41	3.76
CIGARETTE PAPER		WP 60	WP 60
TIPPING PAPER		Cork	Cork
FILTER : TYPE		Single	Single
TOW		3.4 I / 46'000	3.4 I / 46'000
PAPER		FU-POV 40 L	FU-POV 40 L
RTD	mm WG	67	59
TAR	mg/cig.	18.4	18.3
SN	mg/cig.	1.32	1.29
CO	mg/cig.	18.3	19.0
NO	mg/cig.	0.30	0.28
PUFF COUNT		9.4	8.9

THE CIGARETTES ARE SMOKED ON A PM 20 PORTS.

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Source: https://www.industrydocuments.ucsf.edu/docs/yfxk0000